

ART. XV.—*Descriptions of New, or Little-Known, Polyzoa.*

PART XII.

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[Read 11th November, 1886.]

*Family* MEMBRANIPORIDÆ.

*Amphiblestrum argenteum*, n. sp.

THIS species was described and figured in the Prodomus, of the Zoology of Victoria, Plate 37, as *Lepralia trifolium*. and subsequently referred to *Membranipora* in *Trans. Royal Society*, Victoria, 1881. It is not, however, the *Membranipora trifolium* of S. Woods, and, consequently, another name is required for it. The figures already given are quite correct, except that the oral flap in the membranous aperture is not shown. I give an amended description.

Zoarium encrusting. Zoecia variously shaped, elongated, oval or rhomboidal, separated by narrow raised margins; lamina calcareous, finely granular, occupying about two-thirds of the area; aperture trifoliate, the lower margin straight or slightly convex, the entering angles rather sharp; two or three spines above, and frequently one close to each angle of the aperture. Oœcia of moderate size, globular, finely granular, sometimes with a narrow, smooth rim. Avicularia rare, between the zoecia, with long, narrow mandibles.

*Family* ESCHARIDÆ.

*Schizoporella rostrata*, n. sp. Plate I., fig. 2.

Zoarium encrusting. Zoecia rhomboidal, separated by narrow, sharply-raised margins, very slightly convex or nearly flat, silvery, with numerous faintly-bordered pores; mouth with a wide shallow sinus in the lower lip, and a minute denticle on each side internally; an elevated process immediately below the lower lip, on the inner aspect of which is an avicularium, with the triangular mandible pointed upwards. Oœcia large, globular; surface punctate or obscurely perforated.

Port Phillip Heads, Mr. J. B. Wilson.

*Schizoporella pachnoides*, n. sp. Plate I., fig. 3.

Zoarium encrusting. Zoecia elongated, irregular in shape, separated by distinct grooves, with an elevated line at the bottom; surface minutely covered with small elevations, or, from the opening of these, white bordered pores; mouth lofty, horse-shoe shaped, with a wide, deep sinus in the lower lip; margin thickened, especially below; upper border becoming thickened and raised with age. An avicularium with the triangular mandible pointing straight or obliquely downwards, on a slight elevation below the mouth.

Port Phillip Heads.

*Schizoporella dædala*, n. sp.

(= *S. insignis*, M'G.)

In the *Trans. Roy. Soc.*, Viet., 1882, I described a species as *S. insignis*, not being aware that the specific name had been a short time previously applied by Mr. Hincks to an African species. Mr. Hincks subsequently described the present species from Port Phillip Heads, referring it to Mr. Waters' fossil *S. conservata*, an identification which is at least doubtful. As the specific name was previously used for another species, I propose naming the present *S. dædala*, = *S. insignis*, M'G. = *S. conservata*, Hincks (not Waters).

## Family CELLEPORIDÆ.

*Lagenipora nitens*, n. sp. Plate I., fig. 1.

Zoecia oblique at the edges of the zoarium, erect towards the centre, smooth; primary mouth circular or sub-circular, with a small oval avicularium at one side; secondary mouth formed by a tubular peristome, separated by a narrow constricting collar; orifice with a spinous process on each side, between which is the original oral avicularium, carried upwards on a semi-spiral tube, widened above, and ending in a clavate projection. Vicarious avicularia broadly spatulate.

Port Phillip Heads, Mr. J. B. Wilson.

Of this interesting species I have only a very minute specimen on a piece of shell. It is related to Mr. Hincks's *Phylactella lucida*, afterwards referred by him to *Lagenipora*, and to his *L. spinosa*. The manner in which the small avicularium of the primary mouth is carried up on a semi-spiral tube with the growth of the peristome is very

curious, and is precisely similar to what occurs in *Lekythopora hystrix*. On the specimen there is a single spatulate vicarious avicularium, similar also to those of *Lekythopora*. There are no oecia on the specimen.

*Family* IDMONEIDÆ.

*Idmonea atlantica*, E. Forbes.

Two forms of this species occur, for specimens of both of which I am indebted to Mr. Wilson. Of one I have only seen a single specimen, three-quarters of an inch in height. The branches are dichotomous, and spread in nearly the same plane. The zoecia are three to five in a row, the peristomes very long, the innermost the longest. The posterior surface is regularly longitudinally grooved in the growing ends of the branches, the ridges punctate; but in the older parts the ridges and intervening grooves are much obscured by a series of close concentric ridges, similar to those in *I. Milneana* and *interjuncta*. In the other form (var. *tenuis*, Busk) the branches are narrower, much more straggling, and the posterior surface has not the concentric ridges.

*Hornera ramosa*, n. sp. Plate I., fig. 4.

Zoarium branched, spreading; branches irregularly in the same plane. Branches rather narrow; anterior surface fibro-reticulate, the zoecia opening in rhomboidal spaces. Zoecia in three to five rows, orifices exserted, the central circular and entire, the lateral elliptical and pointed at one side. Posterior surface grooved, the ridges punctate and frequently separated by large punctations or vacuoles. Oecia posterior, prominent, surface deeply areolated, frequently crossed by a narrow ridge starting from the aperture, which is nearly lunate and at one edge.

Port Phillip Heads and elsewhere.

I have some doubt whether this should not be considered a slender variety of *H. frondiculata*, which again ought possibly to be referred to *H. lichenoides*. It occurs in small tufts, occasionally attaining a diameter of an inch. The zoarium arises from a spreading, fibrillated, encrusting base, the resulting short stem immediately dividing into two or more. These again divide dichotomously, or give off smaller branches from the sides. The branches sometimes arise irregularly, and are slightly twisted on themselves, but they usually spread in a more or less flabelliform manner,

frequently expanding laterally and occasionally having a penniform arrangement. The oecia are very prominent and deeply areolated. They are occasionally crossed by a carina originating at the nearly lunate aperture; both ridge and opening are, however, frequently absent.

Family TUBULIPORIDÆ.

*Liripora*, n. genus.

Zoarium crustaceous, growing on a basal lamina. Zoecia not projecting, arranged in single or multiple series, opening along the summits or towards the extremities of ridges which usually more or less radiate from a central point; the intervening grooves without cancelli and covered by a punctate, calcareous membrane.

The species which I have described as *Diastopora lineata* and *D. fasciculata* differ from the true *Diastopora* in having the zoecia arranged in uni- or multiserial rows or ridges, and opening either along the summits of these ridges or towards their extremities. The intervening grooves or furrows have no cells or cancelli, but are covered by a more or less punctate, calcareous membrane. These differences necessitate the reference of the two species to a different generic group. I was at first inclined to place them under one of D'Orbigny's fossil genera, such as *Actinopora*, *Discotubigera*, *Pavotubigera*, or *Semitubigera*, the characters of which are generally essentially the same; but I think it more advisable to give a new name.

In *L. lineata* the ridges are frequently very much more elevated than in the specimen originally described and figured, and the zoarium, instead of being circular, is often elongated or irregular in shape. In all these forms the sloping margin of the zoarium, inside the edge of the thin lamina, is occupied by prismatic cells or cancelli, which open all round, and not only opposite the celliferous ridges. The orifices of the zoecia are frequently closed by a punctate membrane. In some specimens of *D. fasciculata* the ridges and intervening furrows are much more distinct than in that figured.

Family DISCOPORELLIDÆ.

*Lichenopora Wilsoni*, n. sp. Plate I, fig. 5.

Zoarium discoid, cupped, the basal lamina free and upturned. Centre depressed, reticulated by narrow, rounded, smooth ridges or fibrillæ, with narrow, elongated interspaces,

at the bottom of which is a punctate membrane; the elevated fibrillæ with numerous sharp, straight, or uncinatè spines, projecting forwards. Zoœcia arranged in radiating lines of single series, erect, very lofty at the central starting point, and gradually diminishing in height to the circumference; mouth rounded, with usually a sharp spine on each side above. Intermediate cancelli numerous, large, irregular, with numerous minute internal spines.

Port Phillip Heads, Mr. J. B. Wilson.

The only specimen I have seen of this well-marked species forms a beautiful cupped disc one-third of an inch in diameter, the smooth edges of the basal lamina much turned upwards. The central depressed portion is occupied by a peculiar reticulation of smooth, round fibrillæ, from which numerous scattered, small, sharp spines project forwards. The zoœcia are also very characteristic. Those originating the series from the central reticulate space are very lofty; they rapidly but uniformly diminish in height. The peristome is produced on either side towards the upper part into a fine, sharp process. The cancelli between the zoœcial rows are irregular in shape, and lined with minute, sharp spines.

*Family* VESICULARIIDÆ.

*Amathia inarmata*, n. sp.

Zoarium much branched dichotomously; the branches articulated, thick; internodes short, each almost entirely occupied by a single biserial group of zoœcia, four to eight in each series, slightly diminishing in height towards the distal extremity. No filiform appendages.

This species differs from *A. lendigera* in the shortness of the internodes, which are each almost entirely occupied by a single group of zoœcia. The height of the zoœcia is also more nearly uniform.

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A short time ago Mr. Cosmo Newbery placed at my disposal for examination some marine specimens collected in the Straits of Gaspar and Baly by Captain Worsley, of the telegraph ship "Sherard Osborne." They consisted chiefly of Crinoids, some magnificent specimens of *Scalpellum villosum* (Darwin), and a few Polyzoa. The last were all from the Straits of Gaspar, in lat. 3 degs. 19 mins. S., long. 107 degs. 17 mins. E., and were obtained from a depth of 17 fathoms. There are six species in all, of which three

have been previously described. These are *Scrupocellaria cervicornis* (Busk) and *Nellia oculata* (Busk), both well-known, though not common, Australian species, occurring also in the Gulf of Florida, and *Retepora tubulata* (Busk), dredged by the "Challenger" naturalists off Cape York. Of these new species one, *Retepora Worsleyi*, is especially interesting, as it consists of narrow, dichotomously-divided branches, without any attempt at the formation of fenestræ. Mr. Hincks states (*British Marine Polyzoa*, page 389) that he is acquainted with a non-fenestrate *Retepore*, probably from the Red Sea; but, so far as I am aware, no description has yet been published.

*Family* CELLULARIIDÆ.

*Scrupocellaria annectens*, n. sp. Plate II., fig. 1.

Zoarium erect, branches narrow, dichotomously divided, nearly in the same plane. Zoœcia elongated, smooth; aperture elliptical, occupying about three-fourths of the front; margins thickened; an acute spine internally towards the upper extremity, below which is, in the fertile zoœcia, a clavate scutum, with a long slender pedicle arching over the aperture; ordinary zoœcia destitute of scuta; a zoecium in the angle of bifurcation of a branch, with three short, slender spines superiorly. Oœcia broadly galeate, with a smooth rim inferiorly, and superiorly with several marginal or sub-marginal puncta, or foramina. A small, sessile, lateral avicularium, opening directly upwards at each external upper angle; a sessile avicularium, with acute mandible and usually serrated rostrum below the aperture of each zoœcium internally and near the mesian line. Posterior surface finely sulcate; a vibraculum at the base of each zoœcium, the seta very long, slender, and smooth; frequently a radical fibre or tube from the base of the vibraculum extending laterally to terminate in a similar situation in an opposite branch; a single vibraculum in the angle of bifurcation of a branch.

This species approaches the genus *Canda* in the manner in which the anterior avicularia are arranged, coming very near the mesian line, although not, as in that genus, placed on a special tract. In structure also they much resemble those of *Canda arachnoides*. The branches also are frequently connected by cross fibres or tubes attached to the bases of the vibracular cells. The scutum seems to be confined to the ovicelliferous zoœcia, and is wanting in the others.

There is usually a larger avicularium at the base of the zoecium in a bifurcation. In the portion figured it is abnormal, being subcapitate, attached more to the side, and with a stout conical process growing from one side. It generally differs only from the ordinary form in its larger size.

Family RETEPORIDÆ.

*Retepora Worsleyi*, n. sp. Plate II., fig. 2.

Zoarium small, consisting of slender, dichotomously-divided branches. Zoecia bi-triserial, smooth, or minutely granular, glassy; peristome produced, fluted, lower lip with a deep notch. In the lateral zoecia the outer edge produced outwards, and having on its lower margin a sessile, horizontal avicularium, the rostrum terminated by two short, sharp teeth. Posterior surface strongly vibicate, finely granular, and glistening.

This species, which I have much pleasure in dedicating to Captain Worsley, differs from all the other described *Retepores*, in the complete absence of fenestræ or reticulation, the branches being very slender, dichotomously divided, and with no attempt at anastomosis. The peristome is largely produced, very distinct, and strongly fluted, with a deep mesian sinus. On the lateral zoecia the outer part is produced in a fringed manner; and there is in the lower lip a horizontal sessile avicularium opening upwards, with the rostrum terminated by two short, sharp denticles, very much in the same manner as is seen in the fenestral avicularia of *R. serrata* (M'G.) Altogether the species is most interesting, as showing the inconstancy of zoarial as compared with zoecial characters, even in a genus in which the zoarial character is usually so strongly marked.

Family IDMONEIDÆ.

*Idmonea Gasparensis*, n. sp. Plate II., fig. 3.

Zoarium small, dichotomously divided; zoecia in irregular lines across the branches, usually a central, and one on each side, distinct, punctate; peristome long and projecting forwards, obscurely annulated or annularly and minutely punctate. Posterior surface longitudinally sulcate, and transversely and concentrically rugose; finely punctate; no calcified radical tubes.

This species presents the general structure of *I. Milneana*, D'Orb., and *I. interjuncta* (M'G.), but has very few zoecia,

only two or three in the diameter of a branch. The zoecia are very long, distinct, and closely punctate, the puncta being elevated inflations, darker in the centre, and frequently perforated. The peristome, which is either annulated or with annular series of minute punctures, projects much forwards. The posterior surface is longitudinally sulcate, and concentrically ridged. There are none of the calcified bundles of radical tubes so characteristic of the other species mentioned.

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EXPLANATION OF FIGURES.

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PLATE I.

- Fig. 1. *Lagenipora nitens*. Fig 1a. A few zoecia, showing the primary mouths. Fig 1b. Mandible of vicarious avicularium.
- Fig. 2. *Schizoporella rostrata*, two young zoecia. Fig. 2a. Another portion of the same specimen, showing also oecia.
- Fig. 3. *Schizoporella pachnoides*. Fig. 3a. A single zoecium from the same specimen.
- Fig. 4. *Hornera ramosa*, natural size. Fig. 4a. Anterior surface magnified.
- Fig. 5. *Lichenopora Wilsoni*, natural size. Fig. 5a. Section of same, to show height of zoecia, magnified about two diameters. Fig. 5b. Small portion, showing part of central reticulation by fibres with spines; part of two series of zoecia, and intervening cancelli.

PLATE II.

- Fig. 1. *Scrupocellaria annectens*, natural size. Fig. 1a. Anterior surface of branch magnified. Fig. 1b. Posterior aspect of same.
- Fig. 2. *Retepora Worsleyi*, natural size. Fig. 2a. Anterior surface of branch magnified. Fig. 2b. Posterior aspect of same.
- Fig. 3. *Idmonea Gasparensis*, natural size. Fig. 3a. Anterior surface magnified. Fig. 3b. Posterior surface.